

1
FIG.

FIG. 2

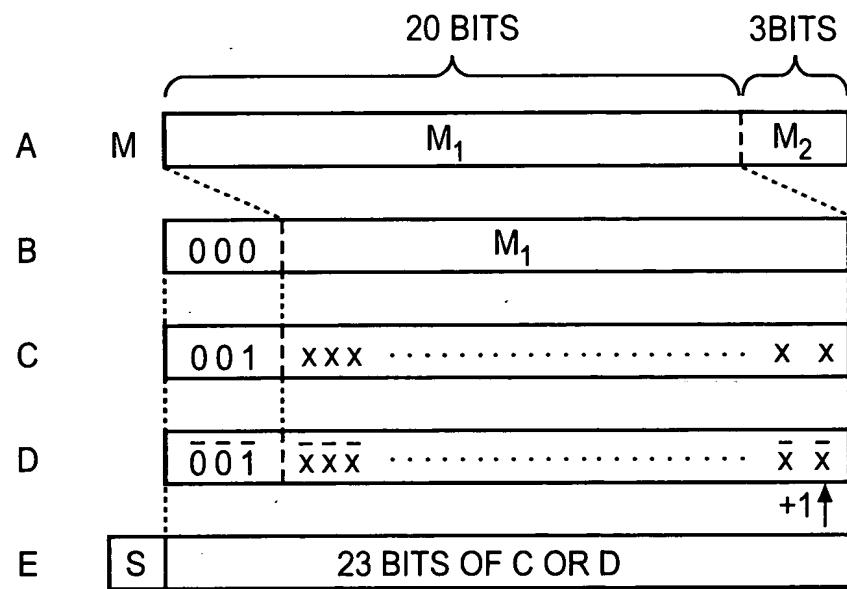


FIG. 3

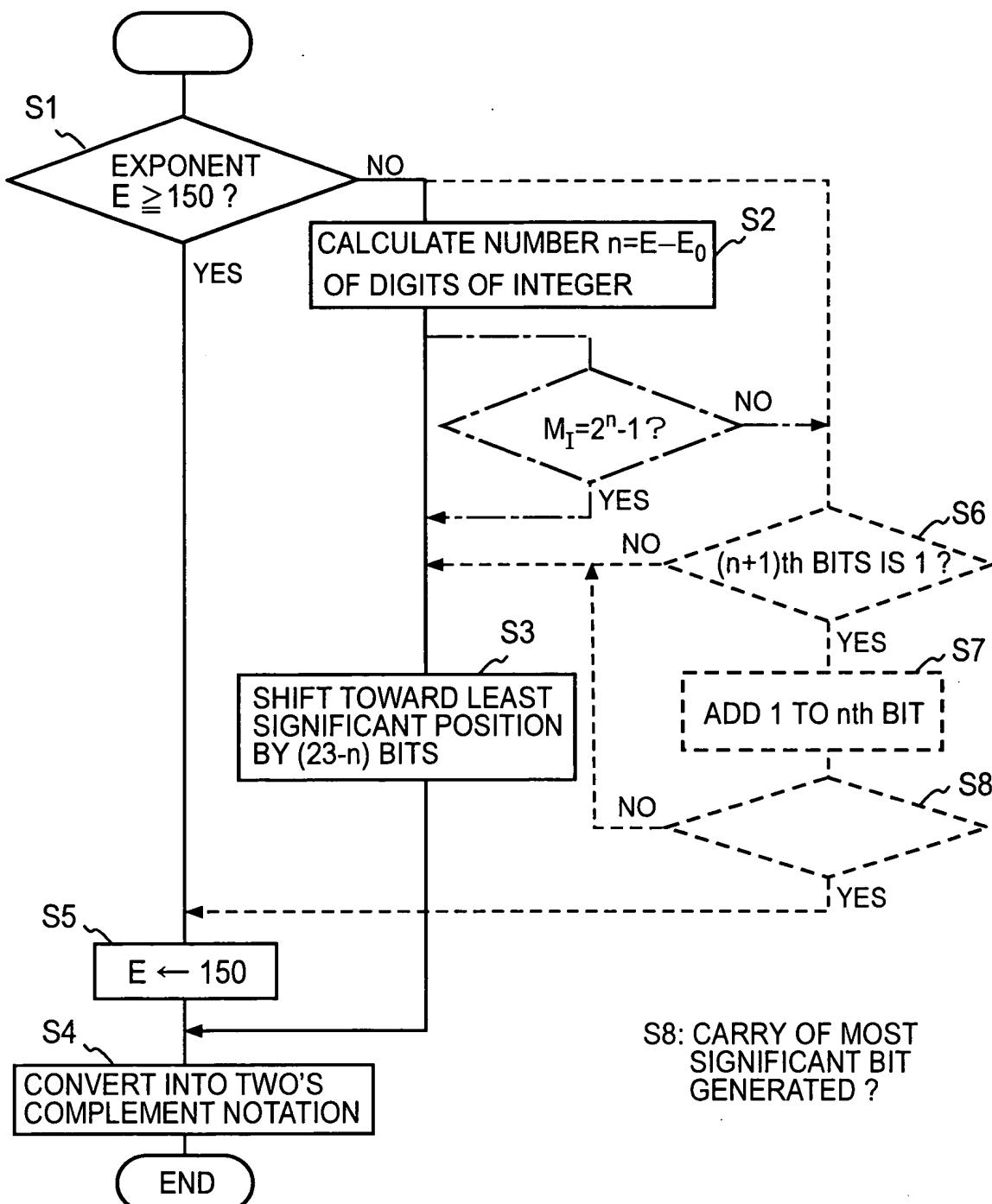


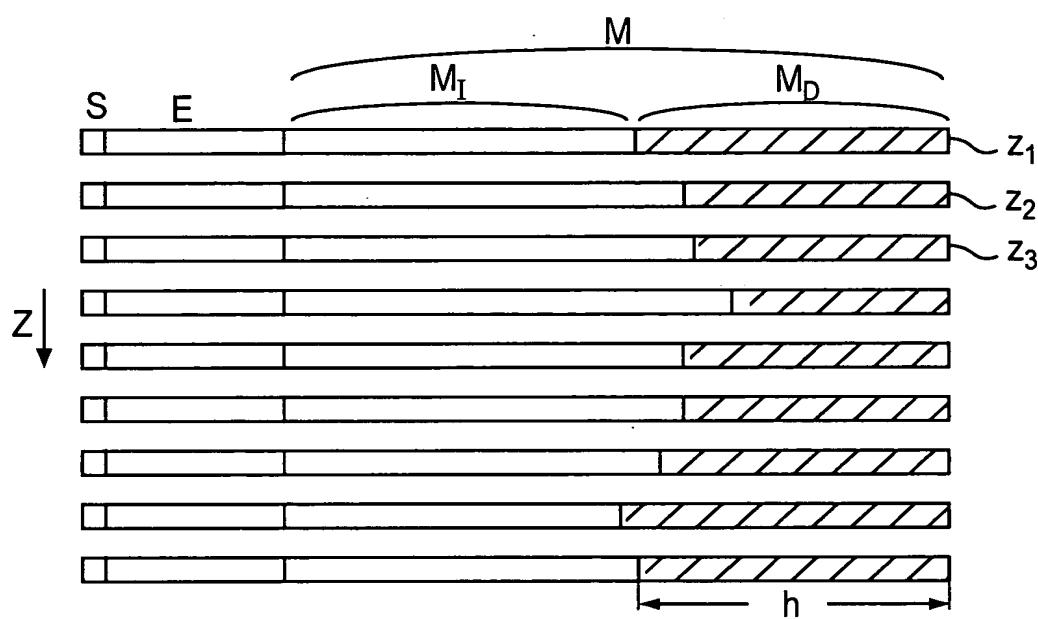
FIG. 4

n	ABSOLUTE VALUE OF INTEGER VALUE X_W	23-BIT MANTISSA M
-127	0	0 \bullet x_{23} x_{22} x_1 P_D
0	1	1 \bullet x_{23} x_{22} x_1 P_D
1	2 to 3	$\boxed{1 \bullet x_{23}} \bullet x_{22}$ x_1 2 BITS
2	4 to 7	$\boxed{1 \bullet x_{23} x_{22}} \bullet x_{21}$ x_1 3 BITS
$k-1$	2^{k-1} to (2^k-1)	$\boxed{1 \bullet x_{23} x_{22} \dots x_{23-(k-2)}} \bullet x_{23-(k-1)} \dots x_1$ K BITS
22	2^{22} to $(2^{23}-1)$	$\boxed{1 \bullet x_{23} \dots x_2} \bullet x_1$ 23 BITS

FIG. 5

ABSOLUTE VALUE OF INTEGER VALUE X_W	SIGN S AND EXPONENT E	MANTISSA M
0	NO CONSTRAINT	NO CONSTRAINT
1	0	NO CONSTRAINT
2 to 3	0	MOST SIGNIFICANT ONE BIT: 0
4 to 7	0	MOST SIGNIFICANT TWO BITS: 0
-	-	-
2^{k-1} to (2^k-1)	0	MOST SIGNIFICANT $k-1$ BITS: 0
2^{22} to $(2^{23}-1)$	0	MOST SIGNIFICANT 22 BITS: 0

FIG. 6



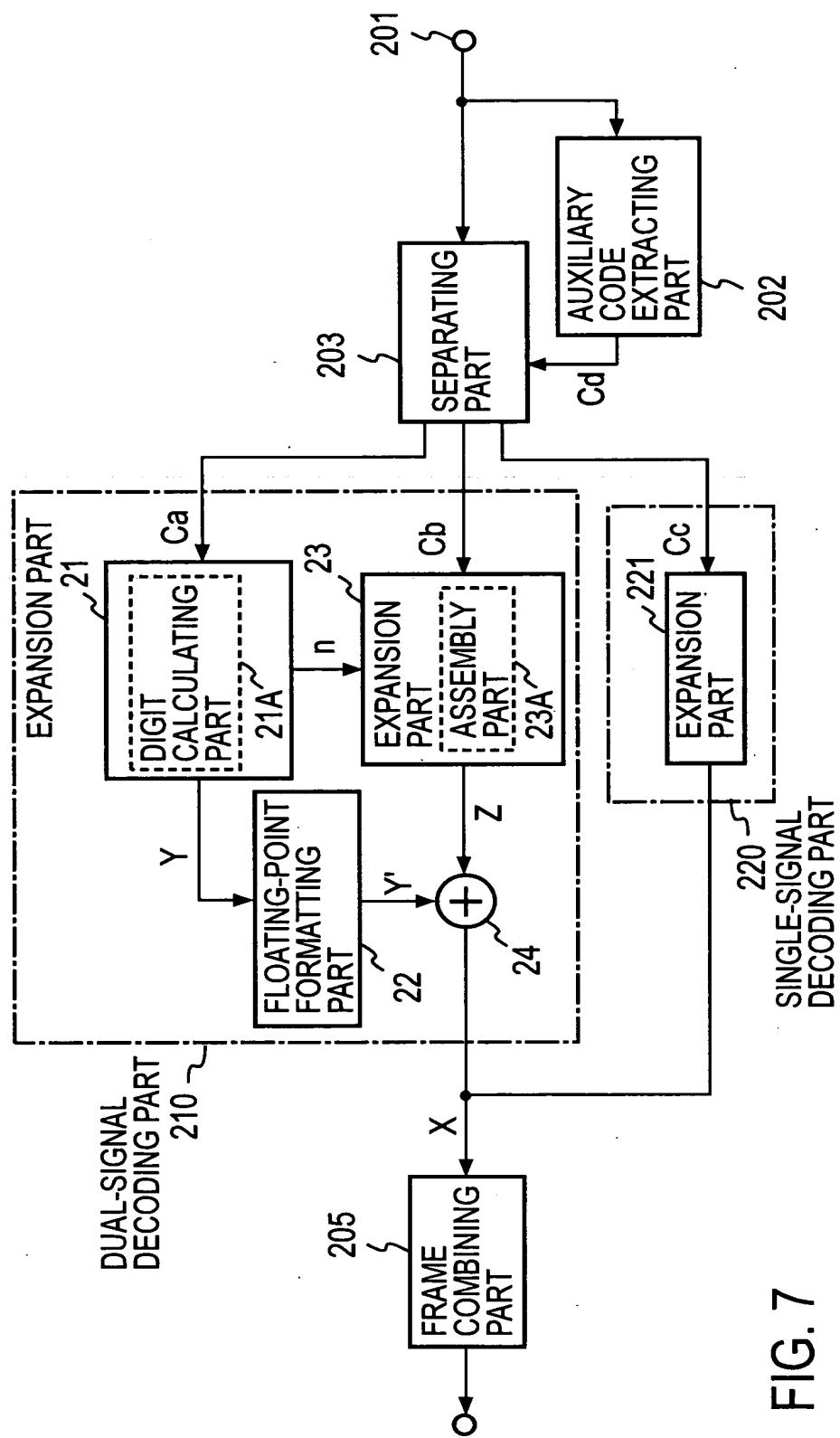
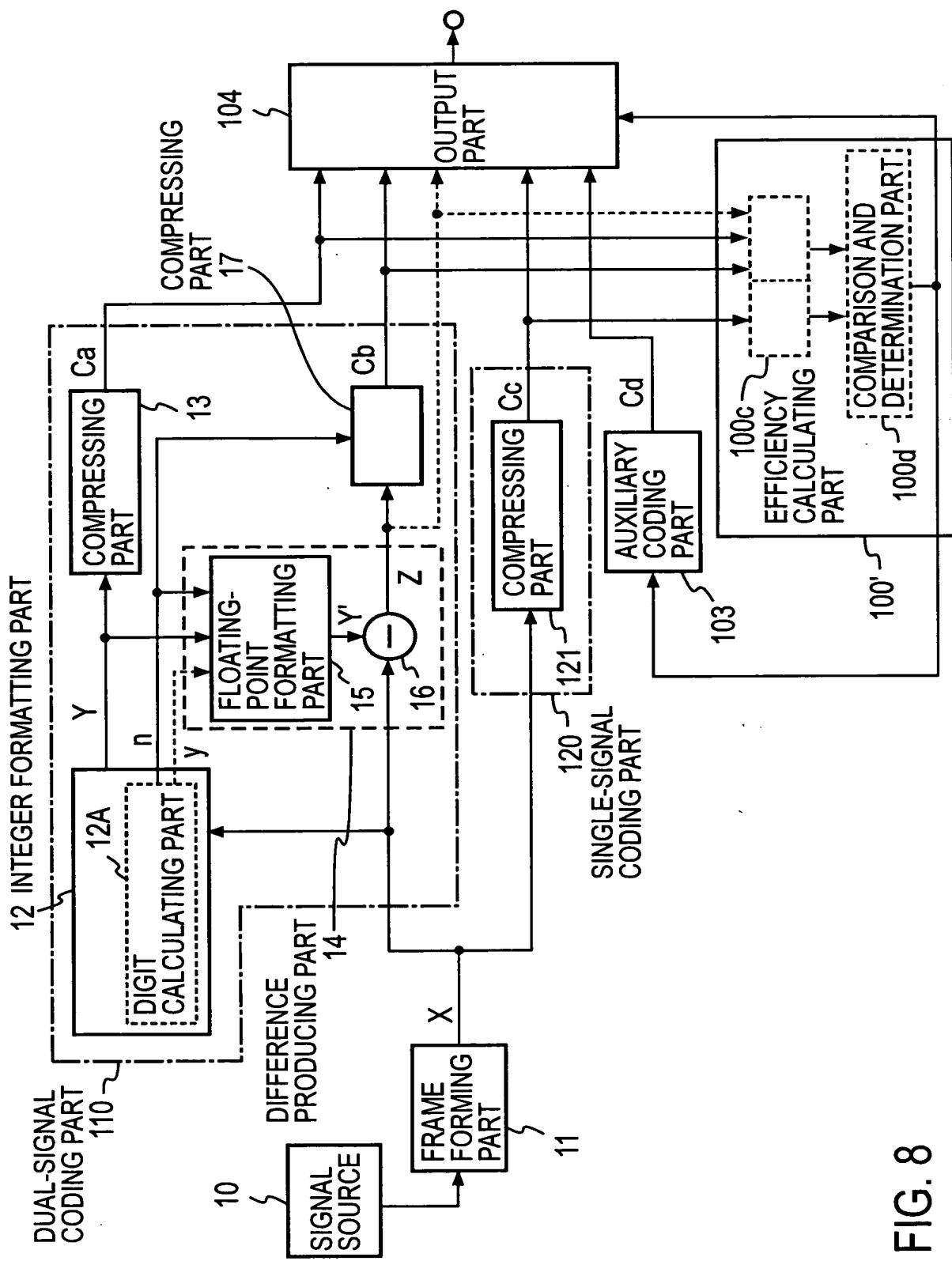


FIG. 7



8
FIG.

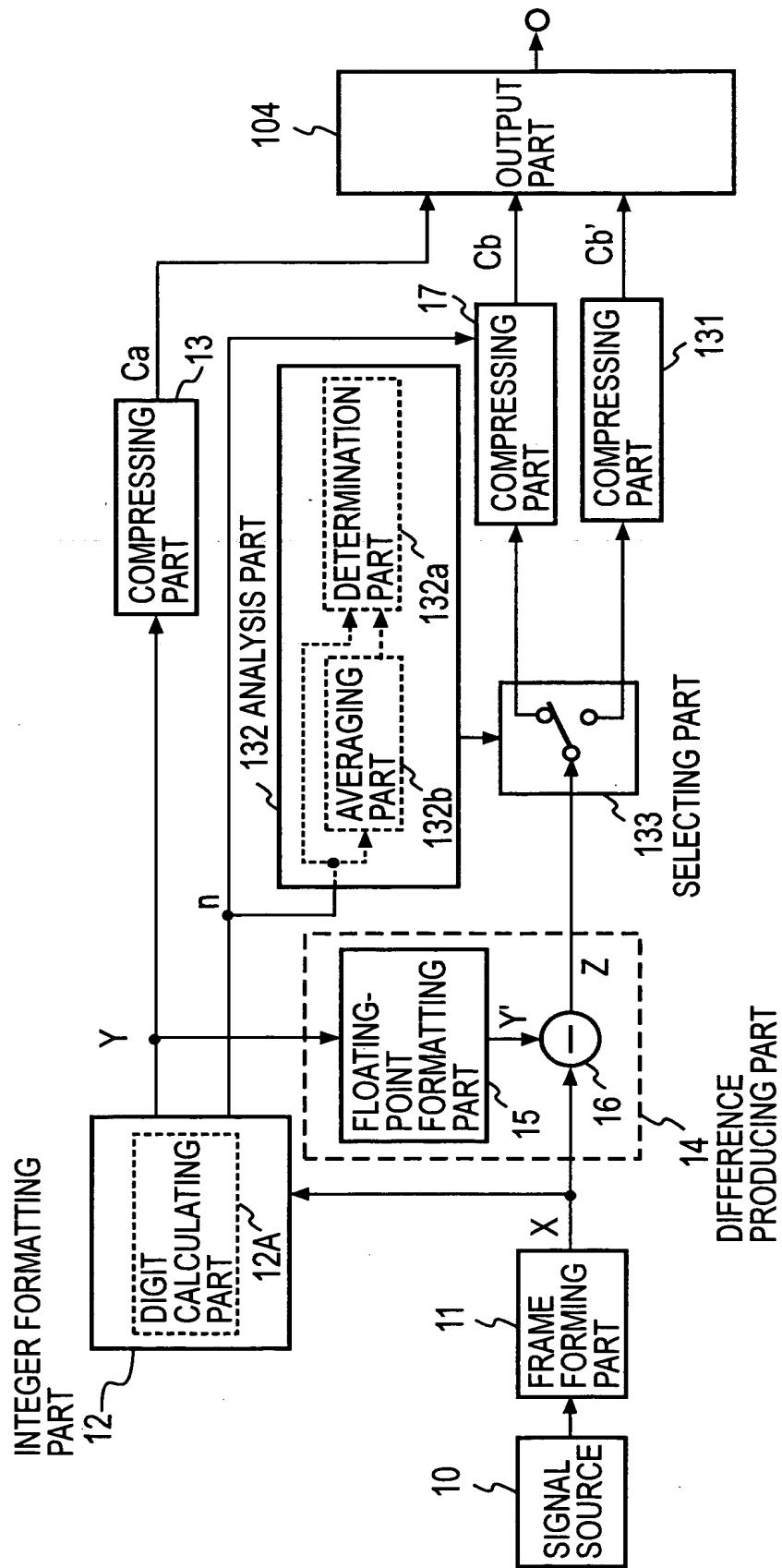


FIG. 9

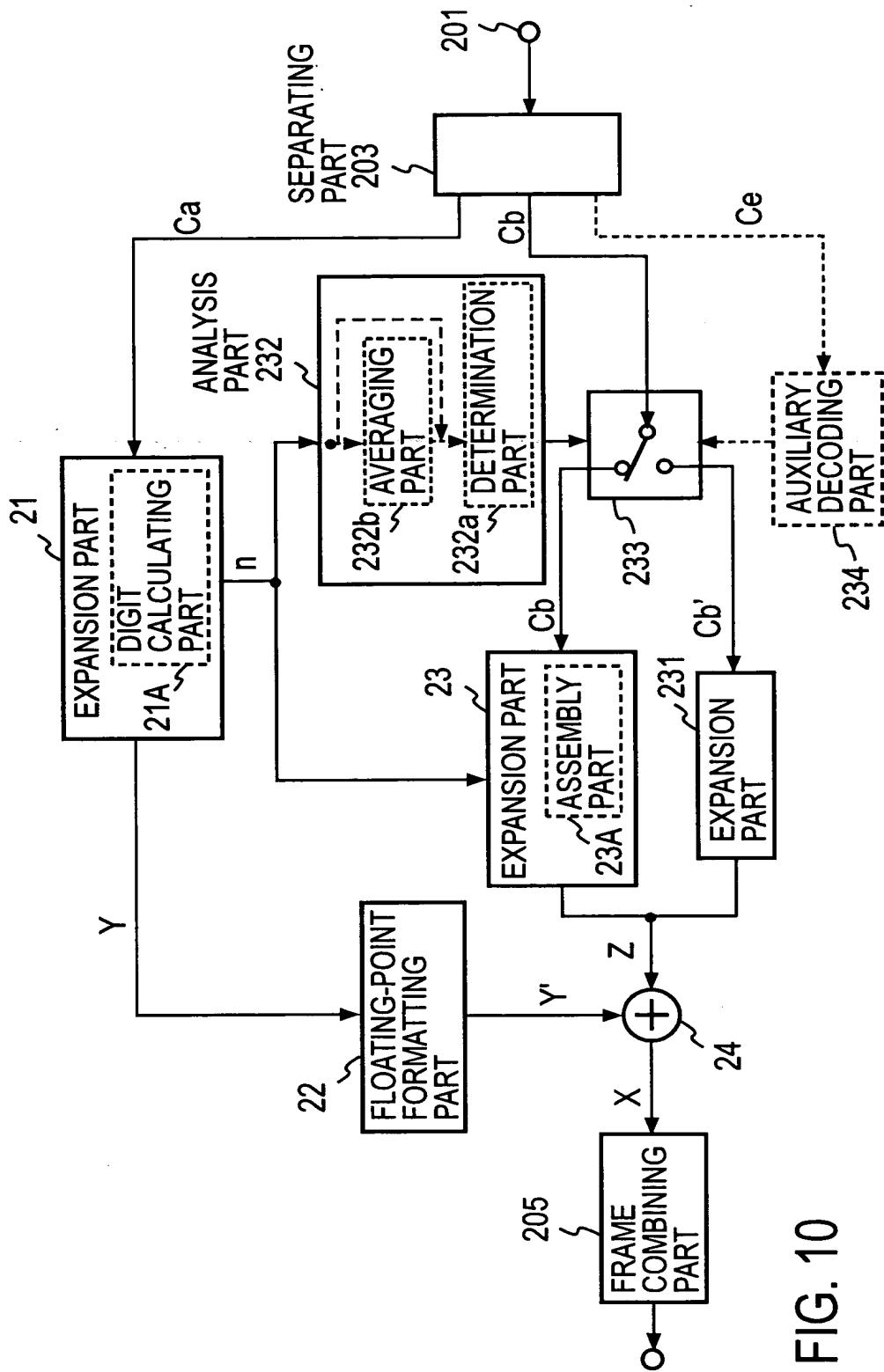


FIG. 10

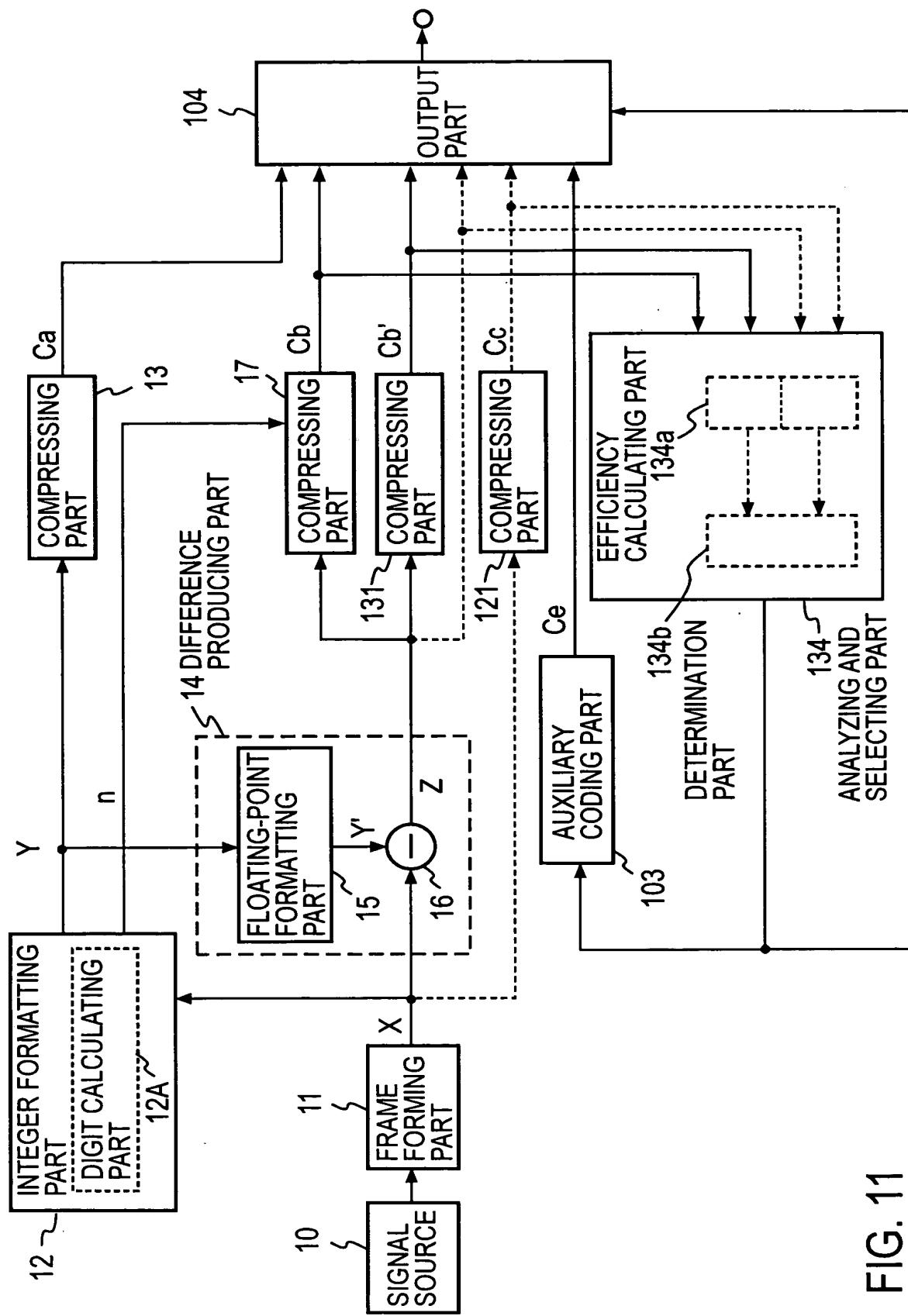


FIG. 11

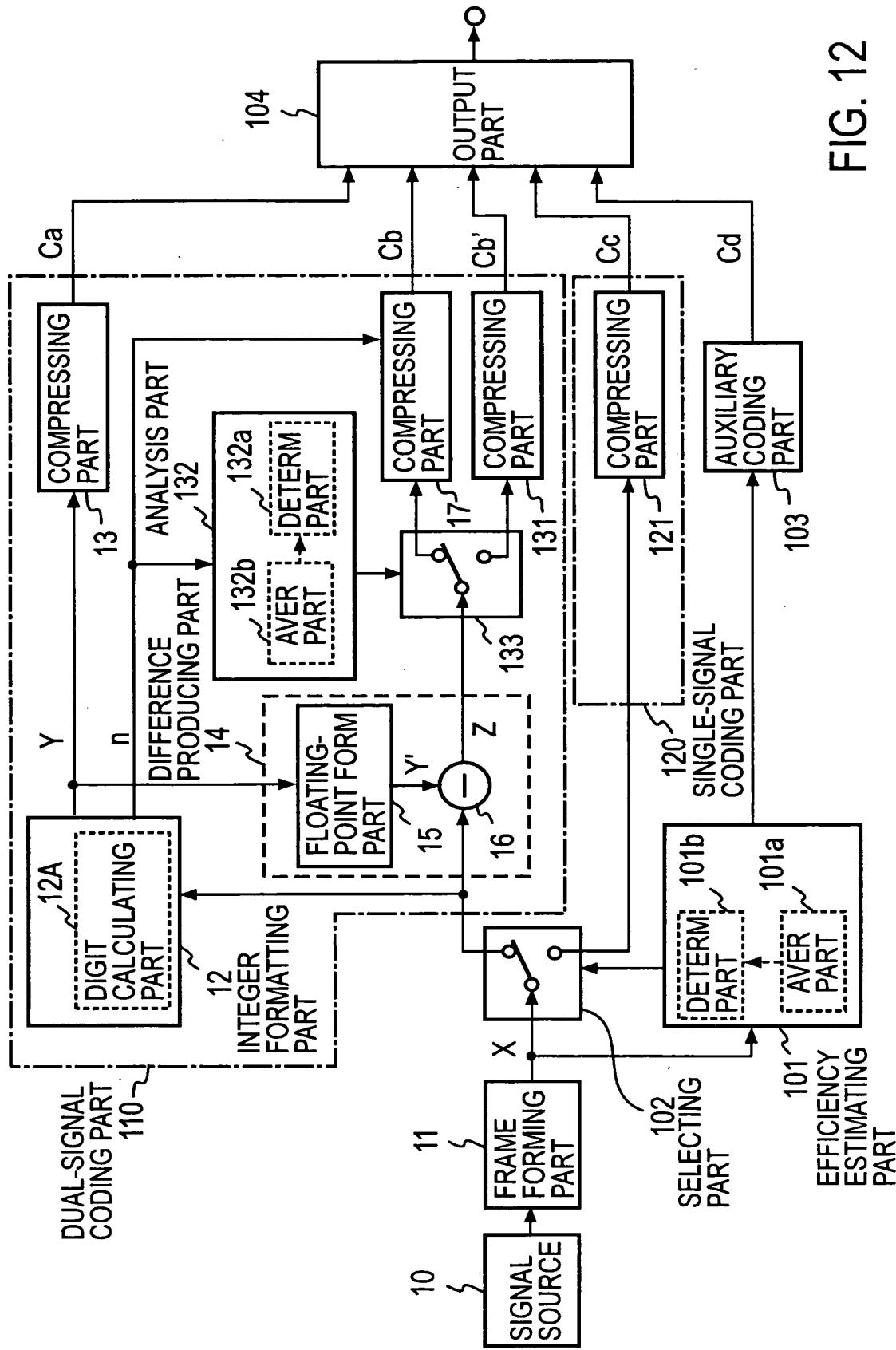


FIG. 12

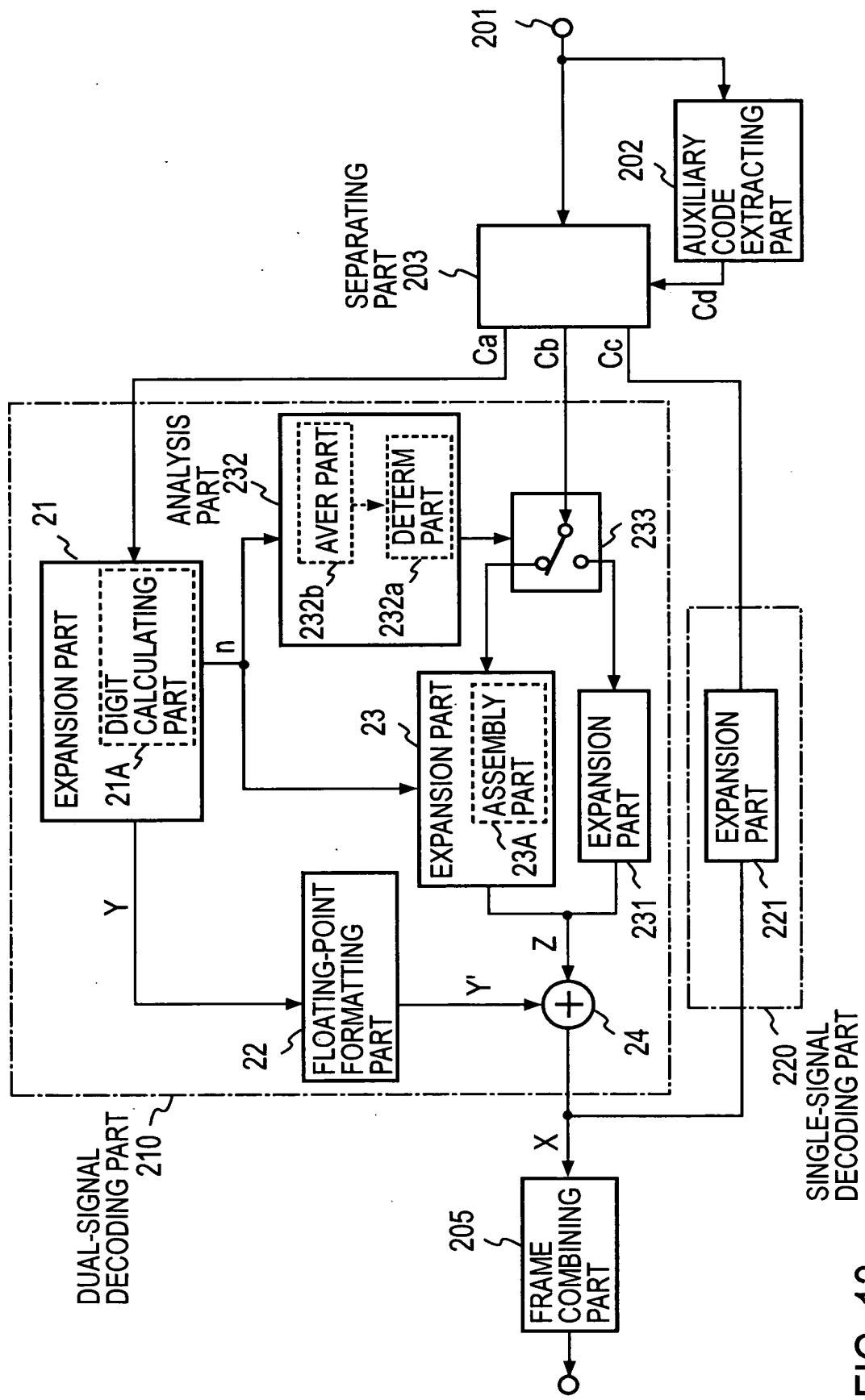


FIG. 13

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FIG. 14A

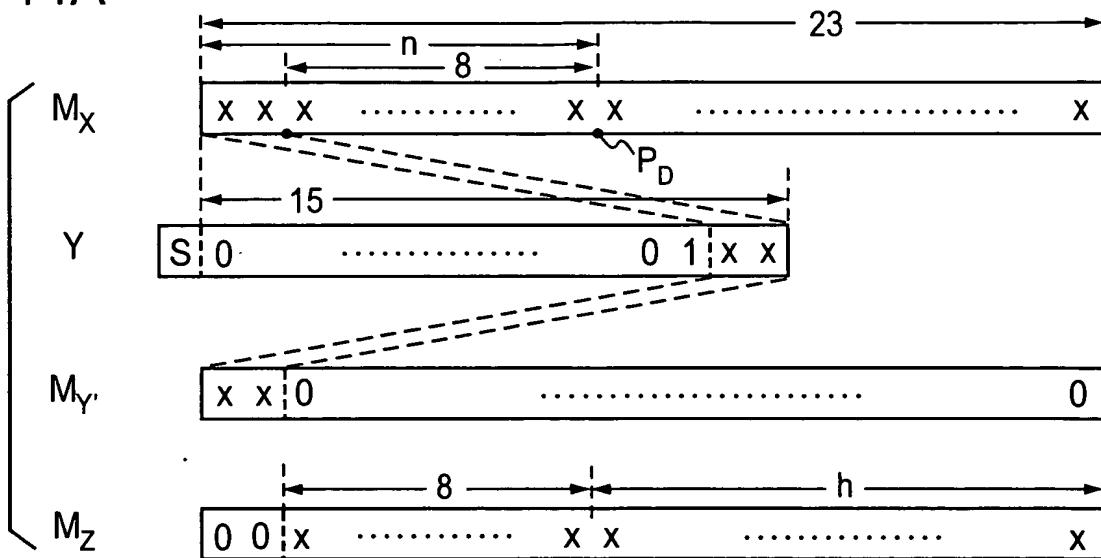


FIG. 14B

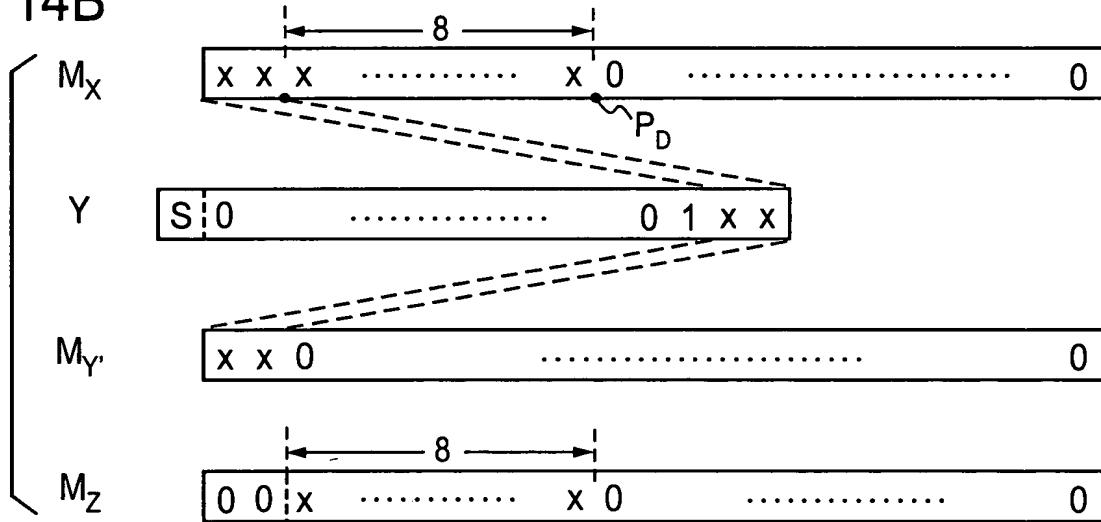


FIG. 14C

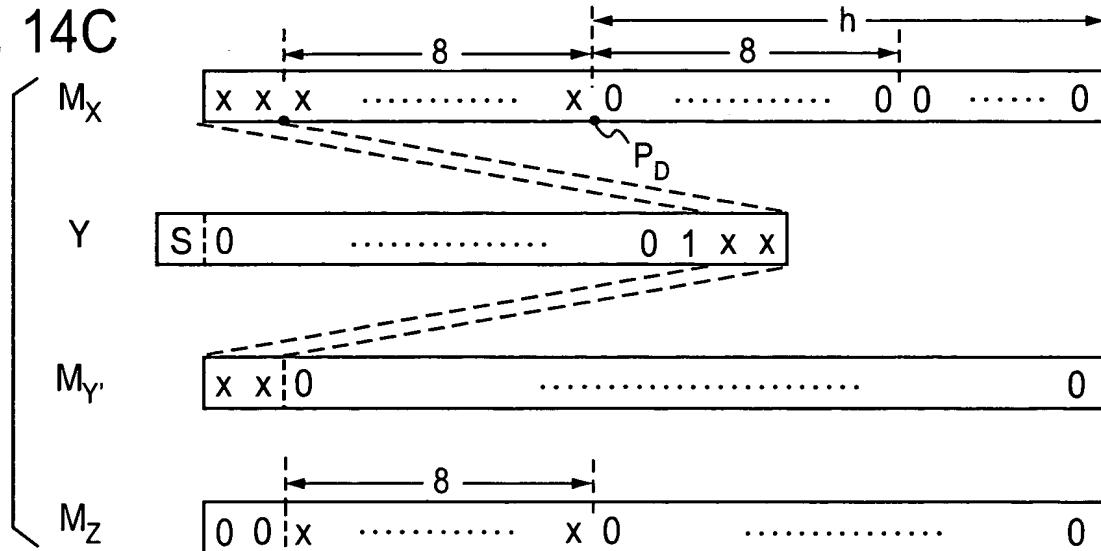


FIG. 15A

FIG. 15B

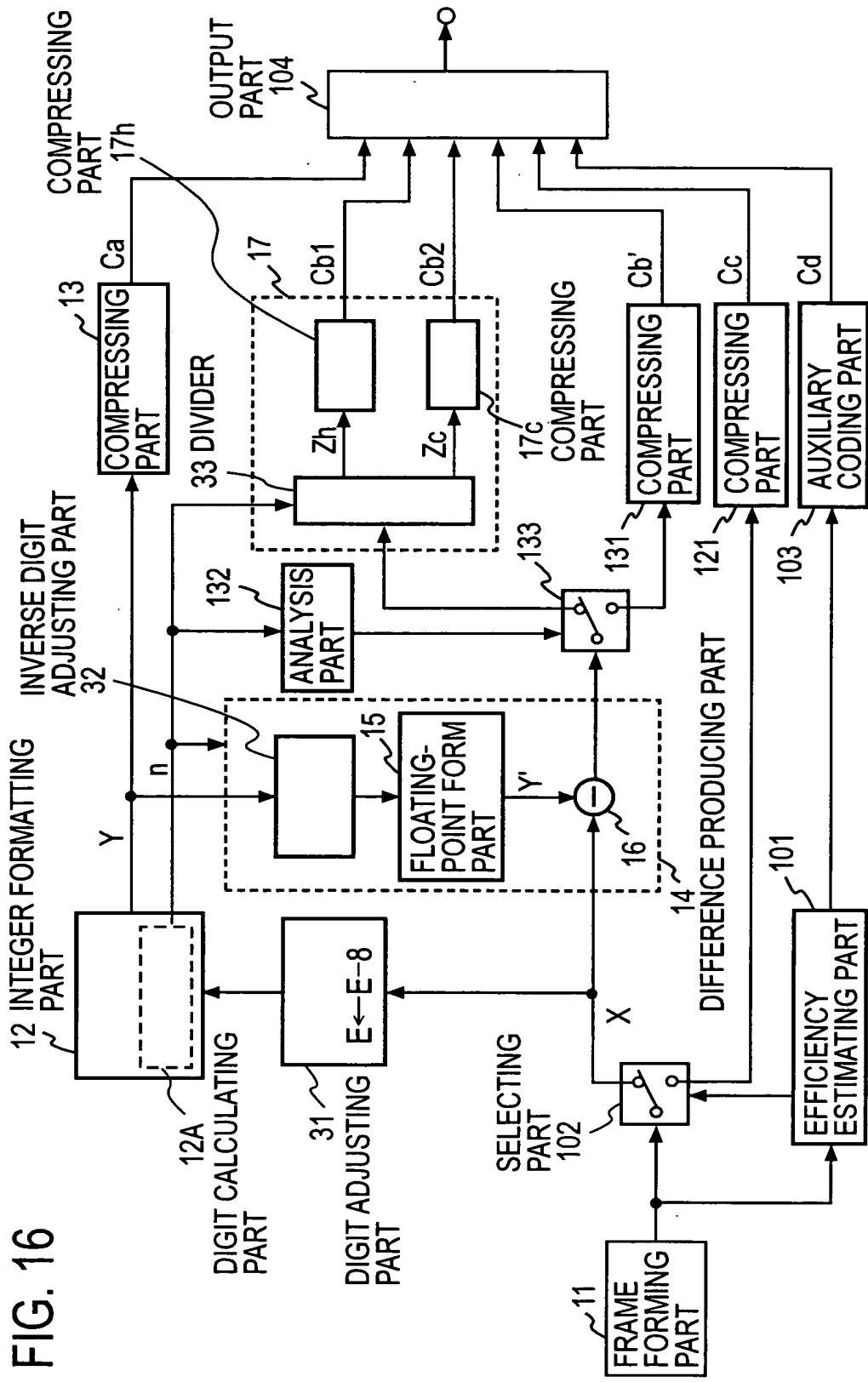


FIG. 17

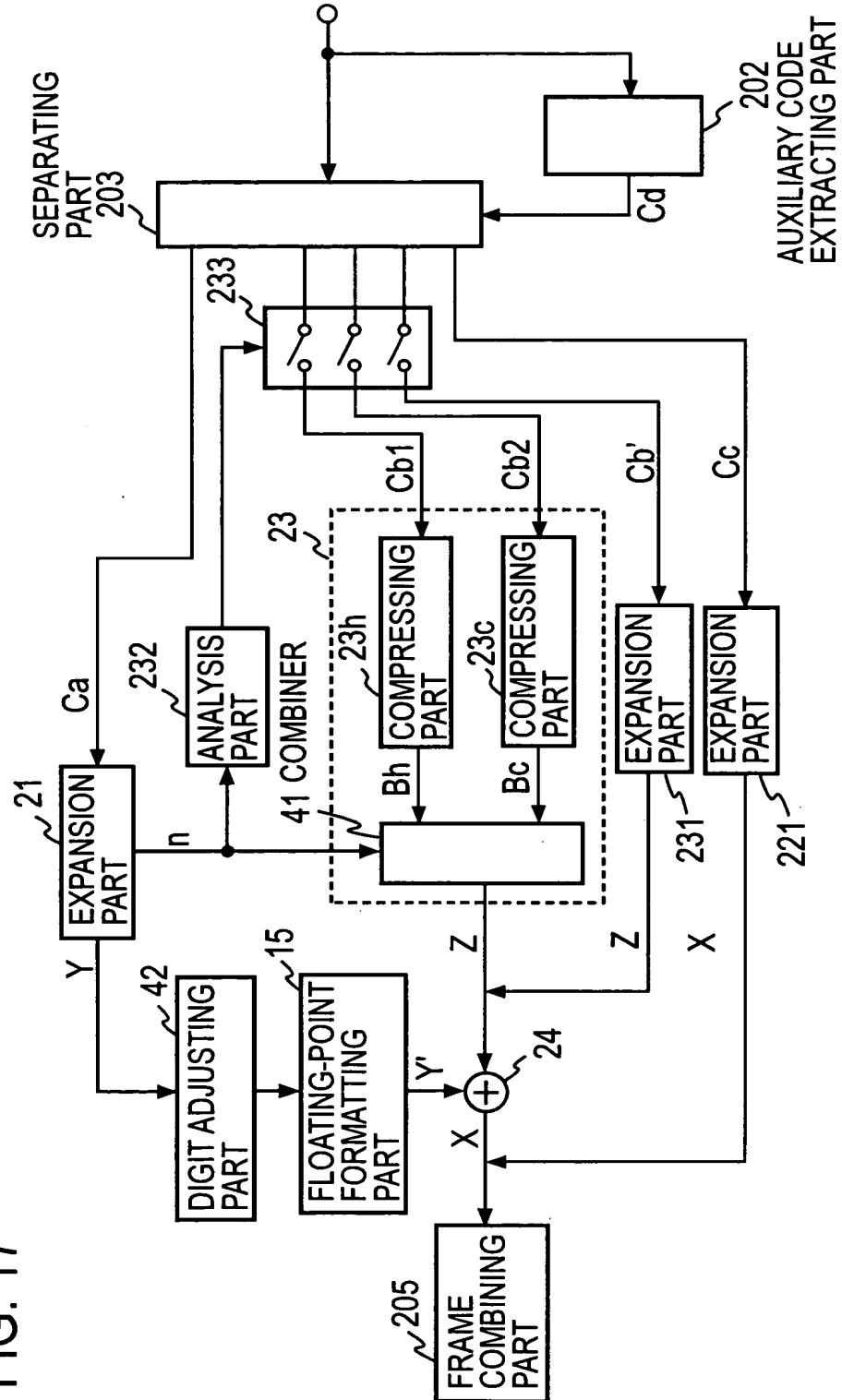


FIG. 18

SAMPLE NUMBER i	INTEGER VALUE	REQUIRED NUMBER OF DIGITS h	FRACTIONAL PART OF MANTISSA		$E_0 E_1 E_2 E_3 \dots E_j \dots E_{16} E_{17} E_{18} E_{19} E_{20} E_{21}$
			MSB	LSB	
0	90	23-6=17	$\otimes \otimes \otimes \otimes \otimes$		
1	300	23-8=15	$\otimes \otimes \otimes \otimes$		
2	43	23-5=18	$\otimes \otimes \otimes \otimes \otimes$		
3	65	23-6=17	$\otimes \otimes \otimes \otimes \otimes$		
4	3	23-1=22	$\otimes \otimes \otimes \otimes \otimes \otimes$		
5	5	23-2=21	$\otimes \otimes \otimes \otimes \otimes$		
⋮	⋮	⋮	⋮	⋮	⋮
1023	8	23-3=20	$\otimes \otimes \otimes \otimes$	$\otimes (i, j)$	
					↓

FIG. 19

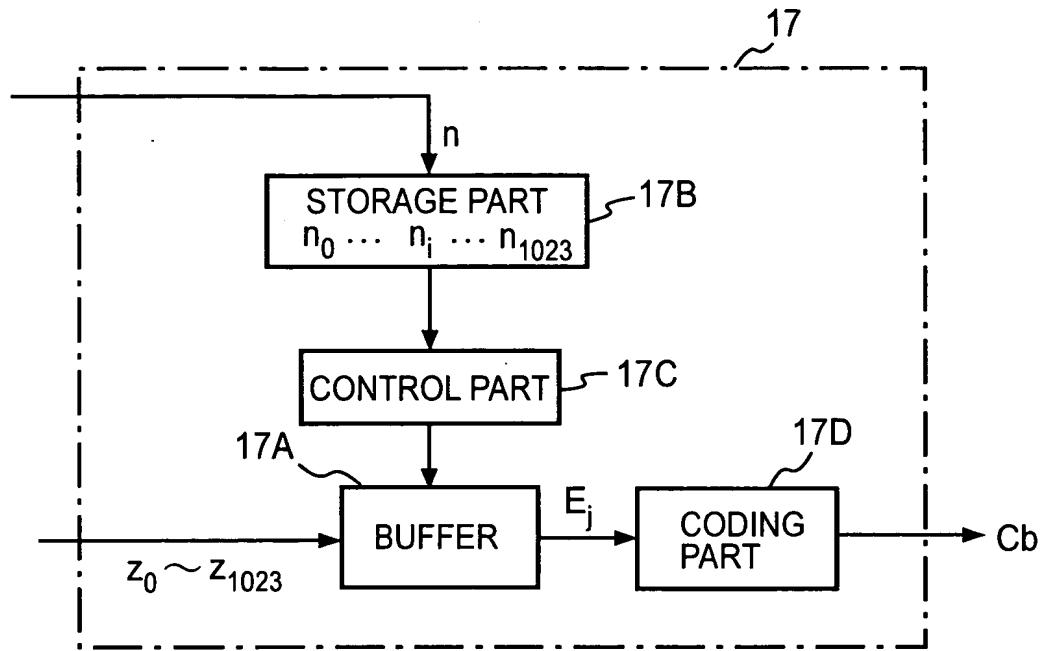
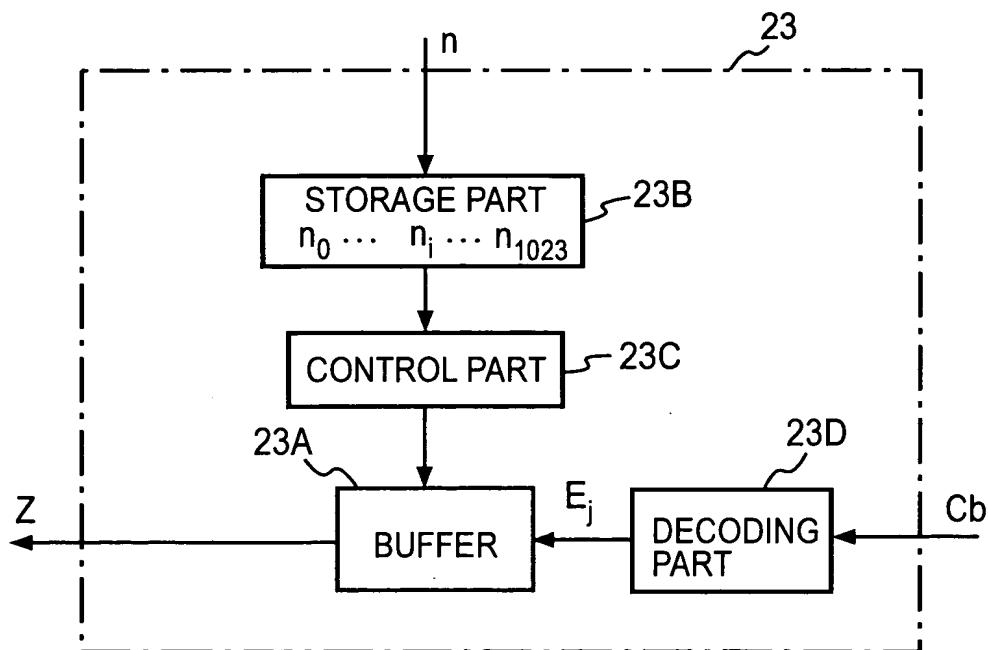


FIG. 20



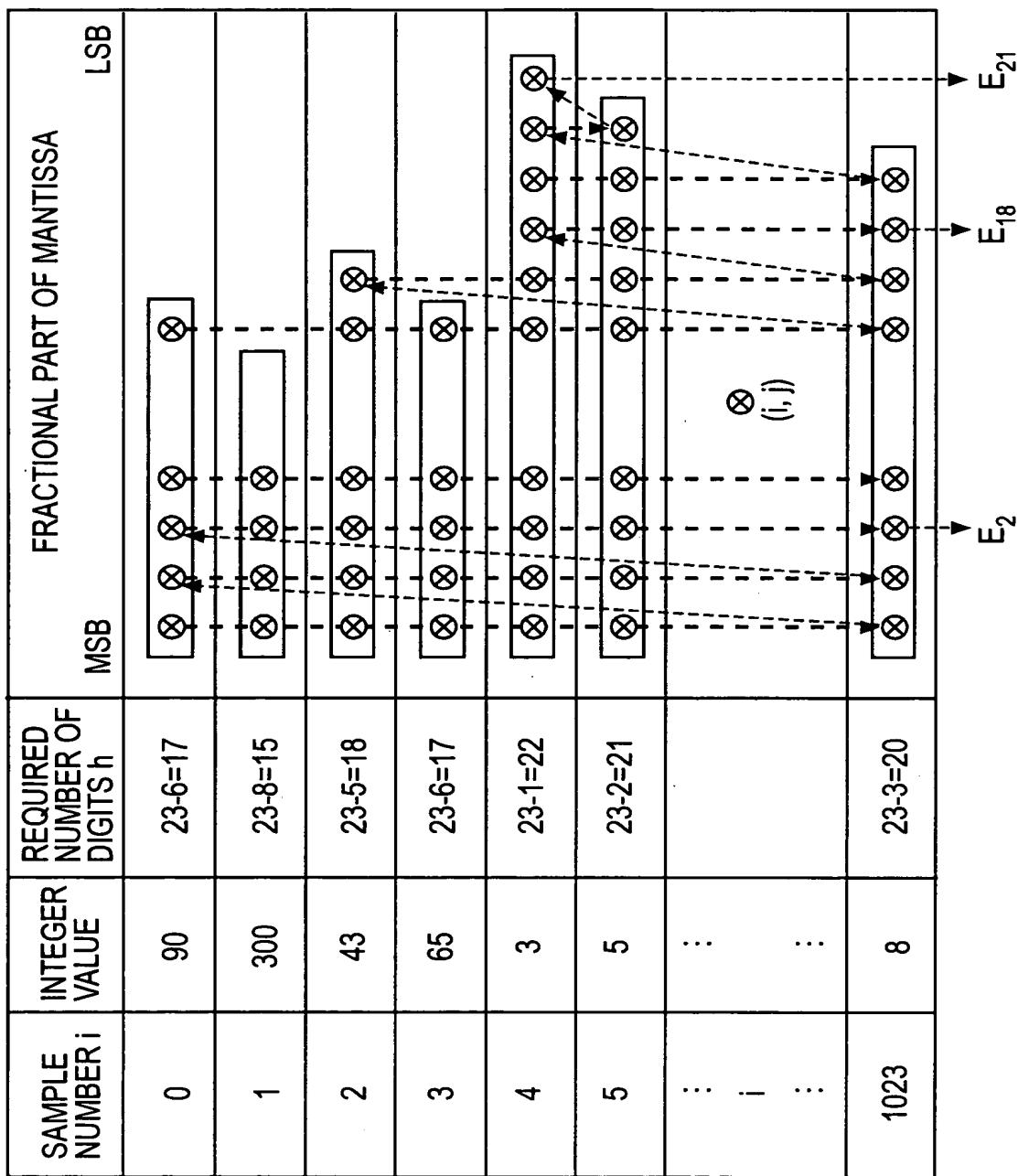
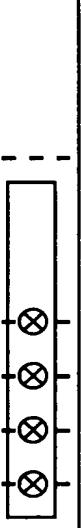
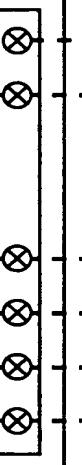
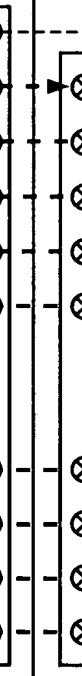
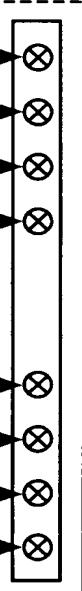


FIG. 22

SAMPLE NUMBER <i>i</i>	INTEGER VALUE	REQUIRED NUMBER OF DIGITS <i>h</i>	FRACTIONAL PART OF MANTISSA
			LSB
			MSB
0	90	23-6=17	
1	300	23-8=15	
2	43	23-5=18	
3	65	23-6=17	
4	3	23-1=22	
5	5	23-2=21	
⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮
1023	8	23-3=20	
			E_2
			$E_{18} E_{19}$

FIG. 23

SAMPLE NUMBER <i>i</i>	INTEGER VALUE	REQUIRED NUMBER OF DIGITS <i>h</i>	FRACTIONAL PART OF MANTISSA
0	90	23-6=17	
1	300	23-8=15	
2	43	23-5=18	
3	0	32*	
4	3	23-1=22	
5	5	23-2=21	
...	
1023	8	23-3=20	

*SEPARATELY

$E_0 E_1 E_2 E_3 \dots E_j \dots E_{16} E_{17} E_{18} E_{19} E_{20} E_{21}$

SAMPLE NUMBER i	INTEGER VALUE	REQUIRED NUMBER OF DIGITS h	FRACTIONAL PART OF MANTISSA			
			MSB	LSB		
0	90	23-6=17	\otimes	\otimes	\otimes	\otimes
1	300	23-8=15		\otimes	\otimes	\otimes
2	43	23-5=18		\otimes	\otimes	\otimes
3	65	23-6=17		\otimes	\otimes	\otimes
4	3	23-1=22	\otimes	\otimes	\otimes	\otimes
5	5	23-2=21	\otimes	\otimes	\otimes	\otimes
...
1023	8	23-3=20		\otimes	\otimes	\otimes

FIG. 24

FIG. 25

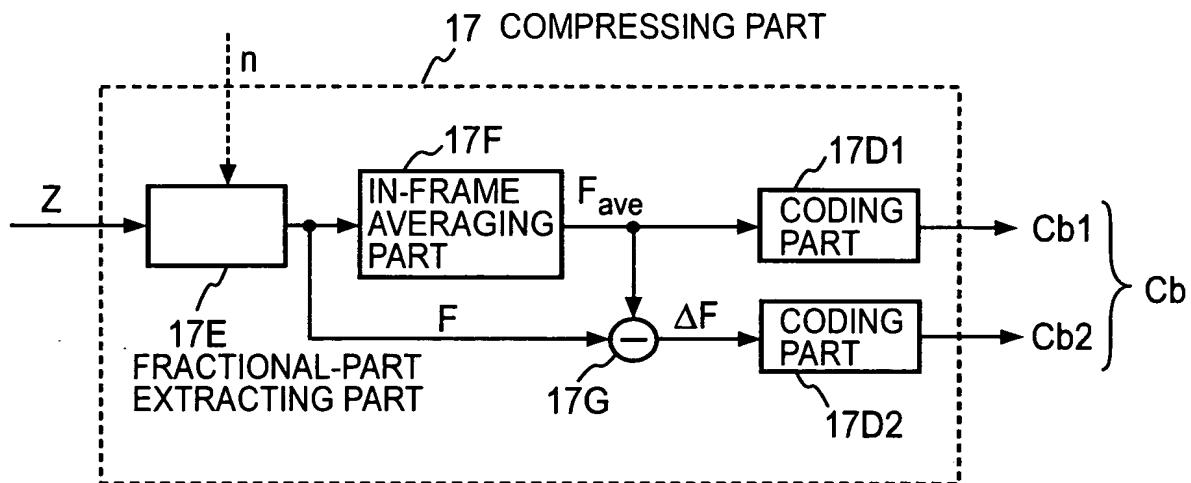


FIG. 26

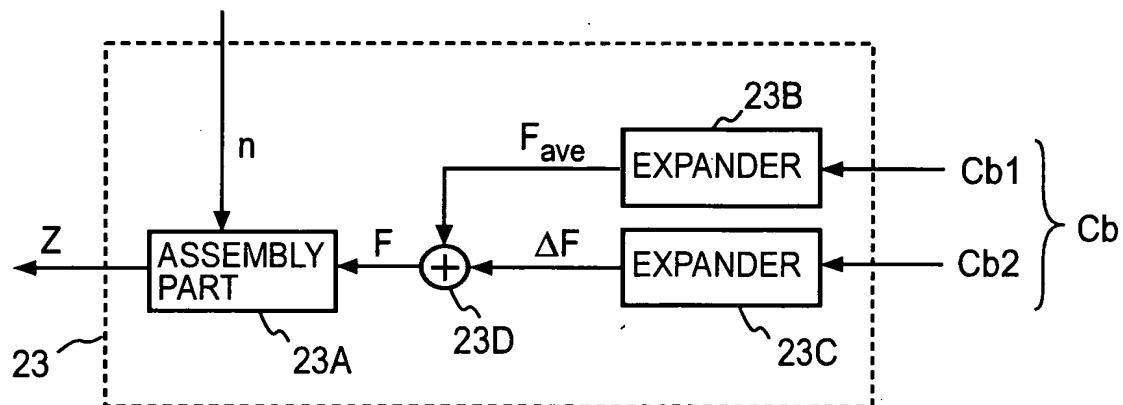


FIG. 27

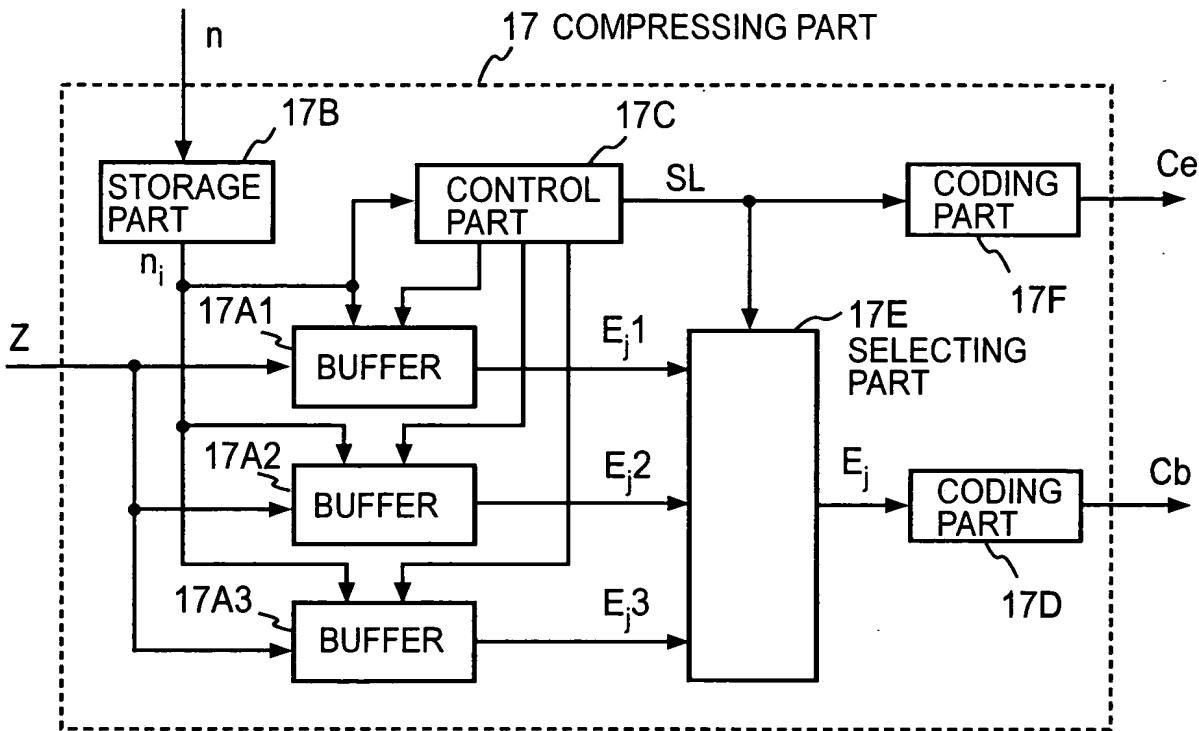


FIG. 28

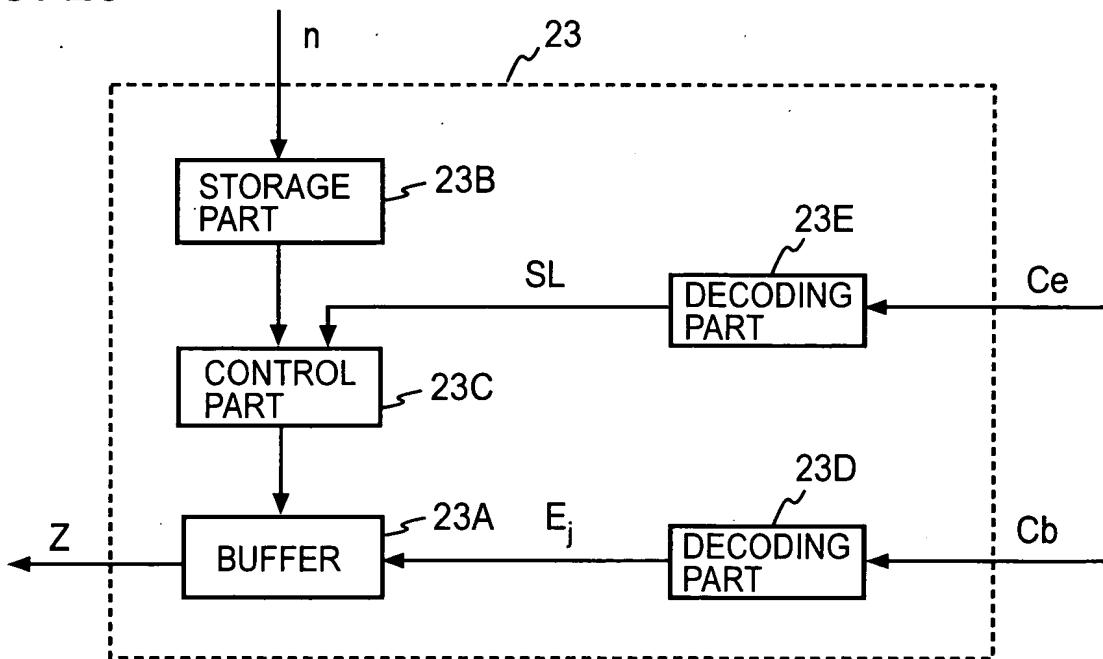


FIG. 29

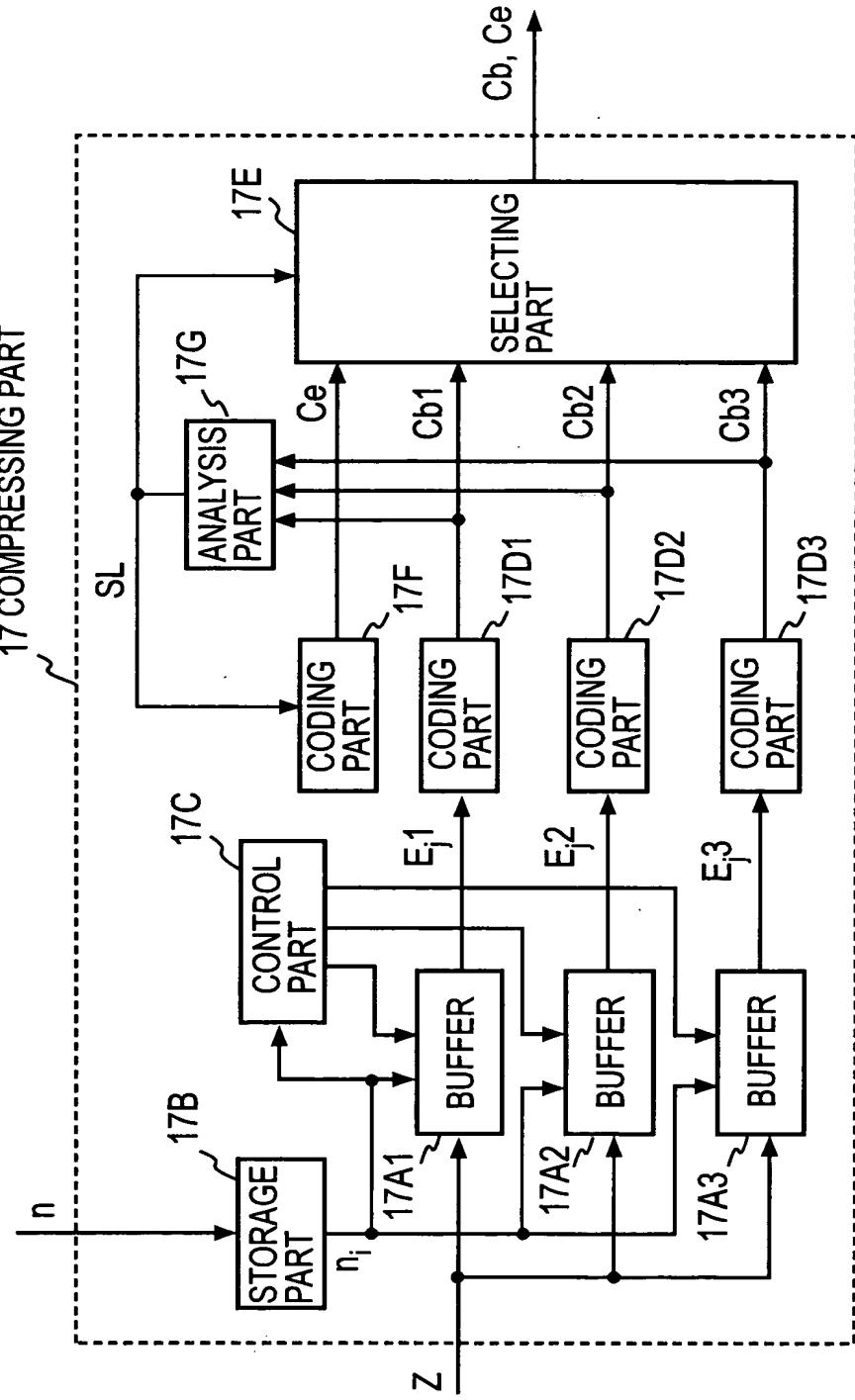


FIG. 30

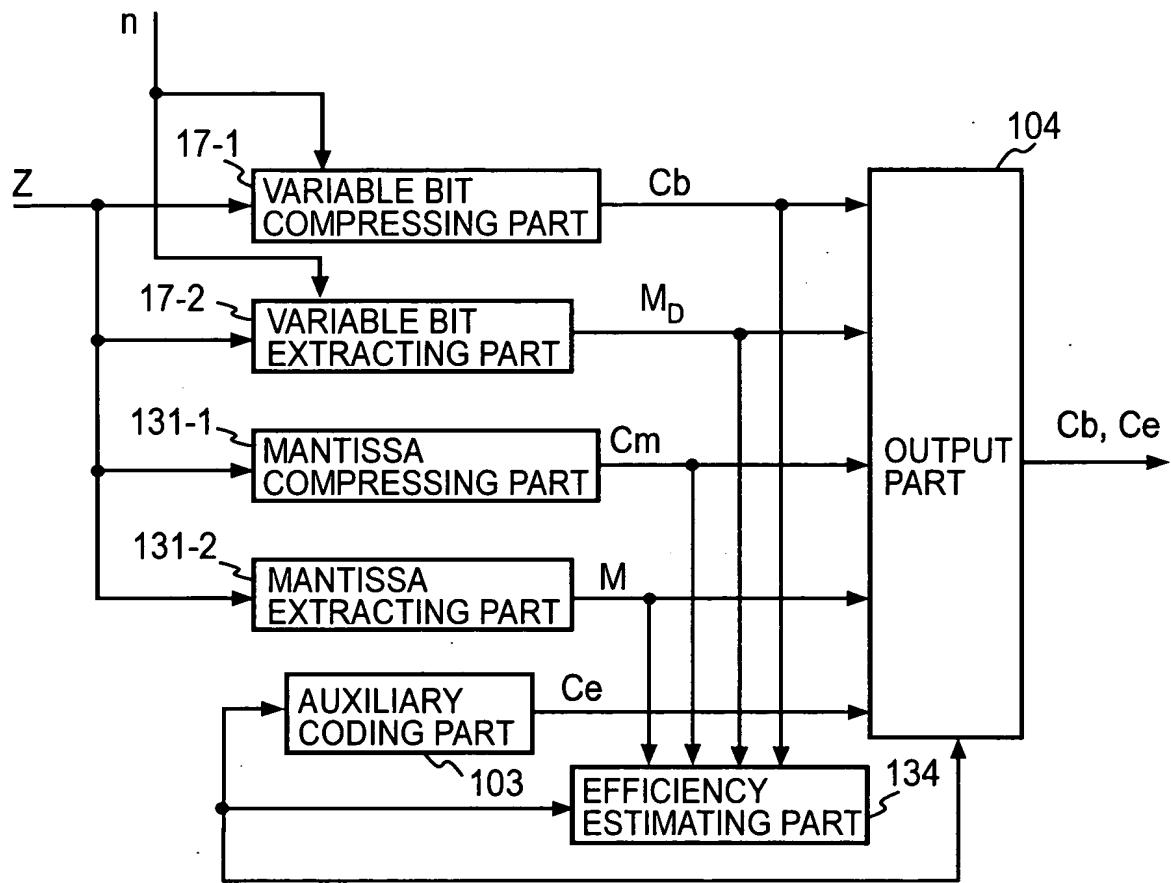


FIG. 31

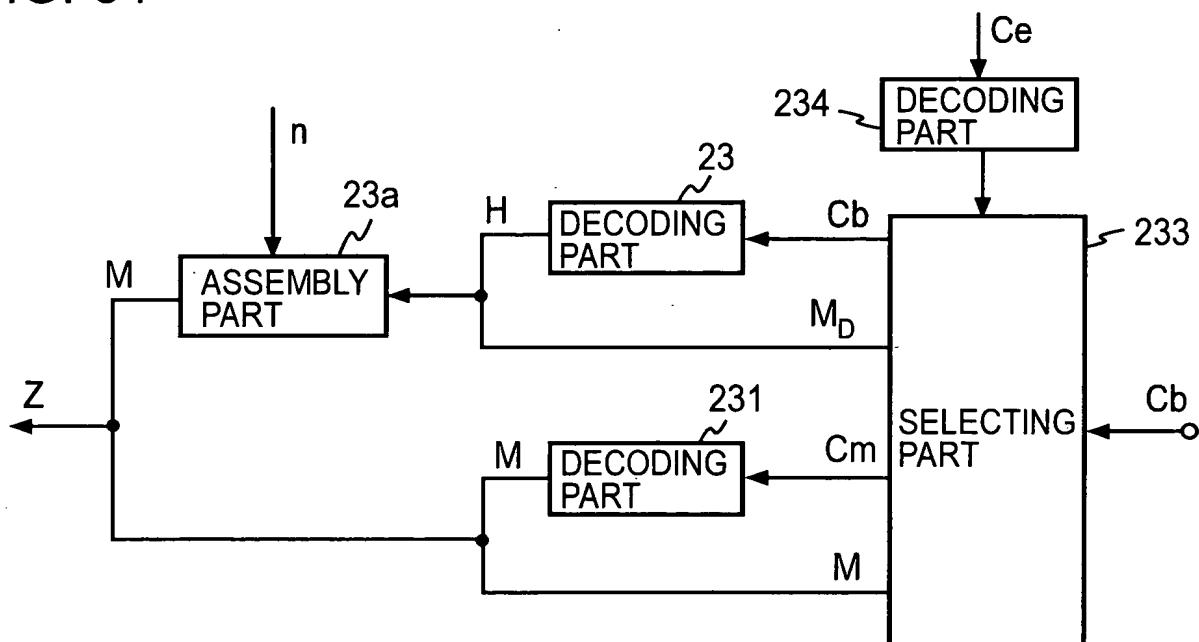


FIG.32

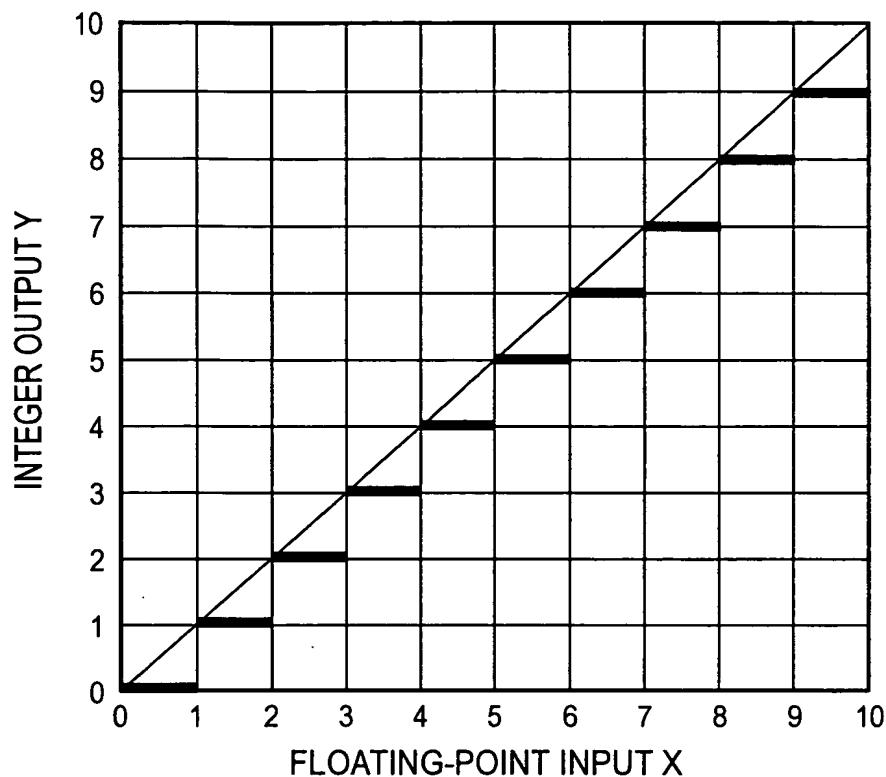


FIG. 33

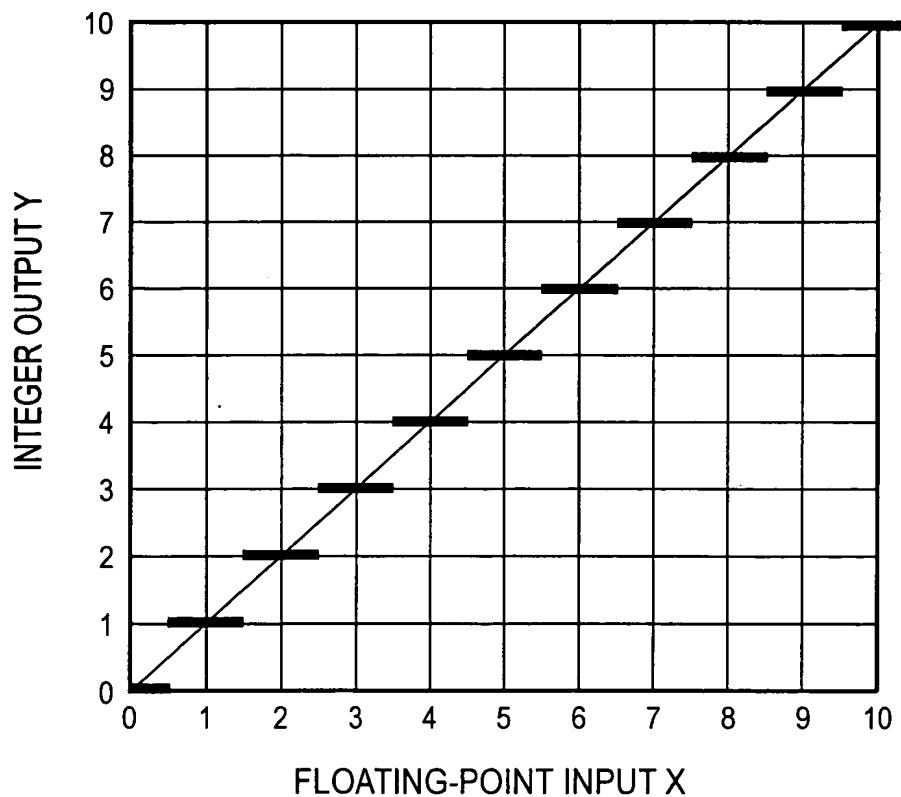
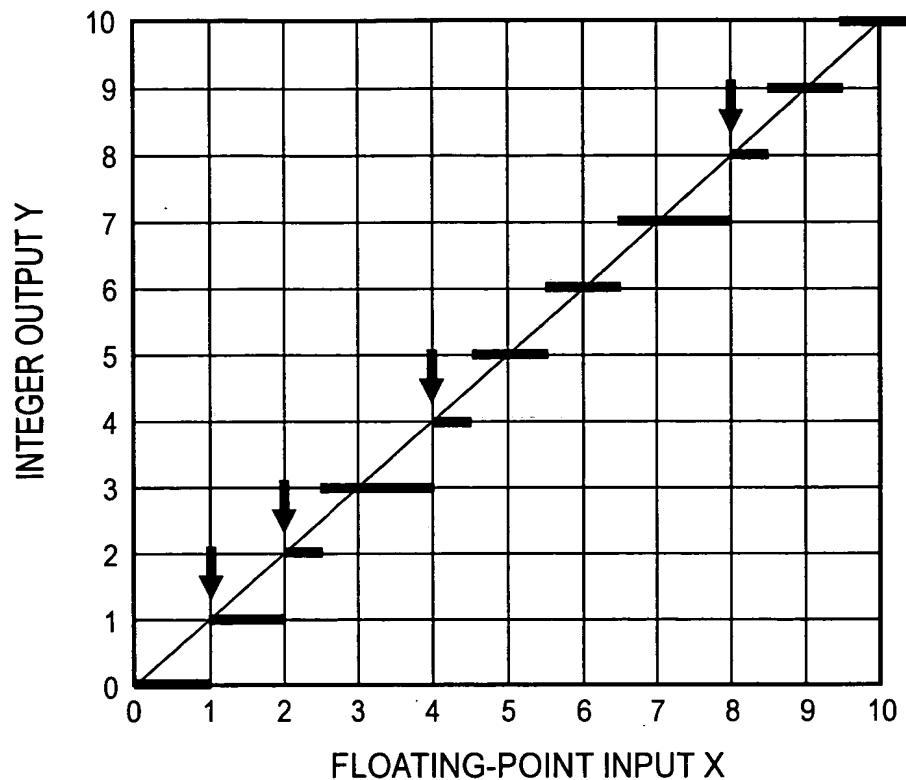


FIG. 34



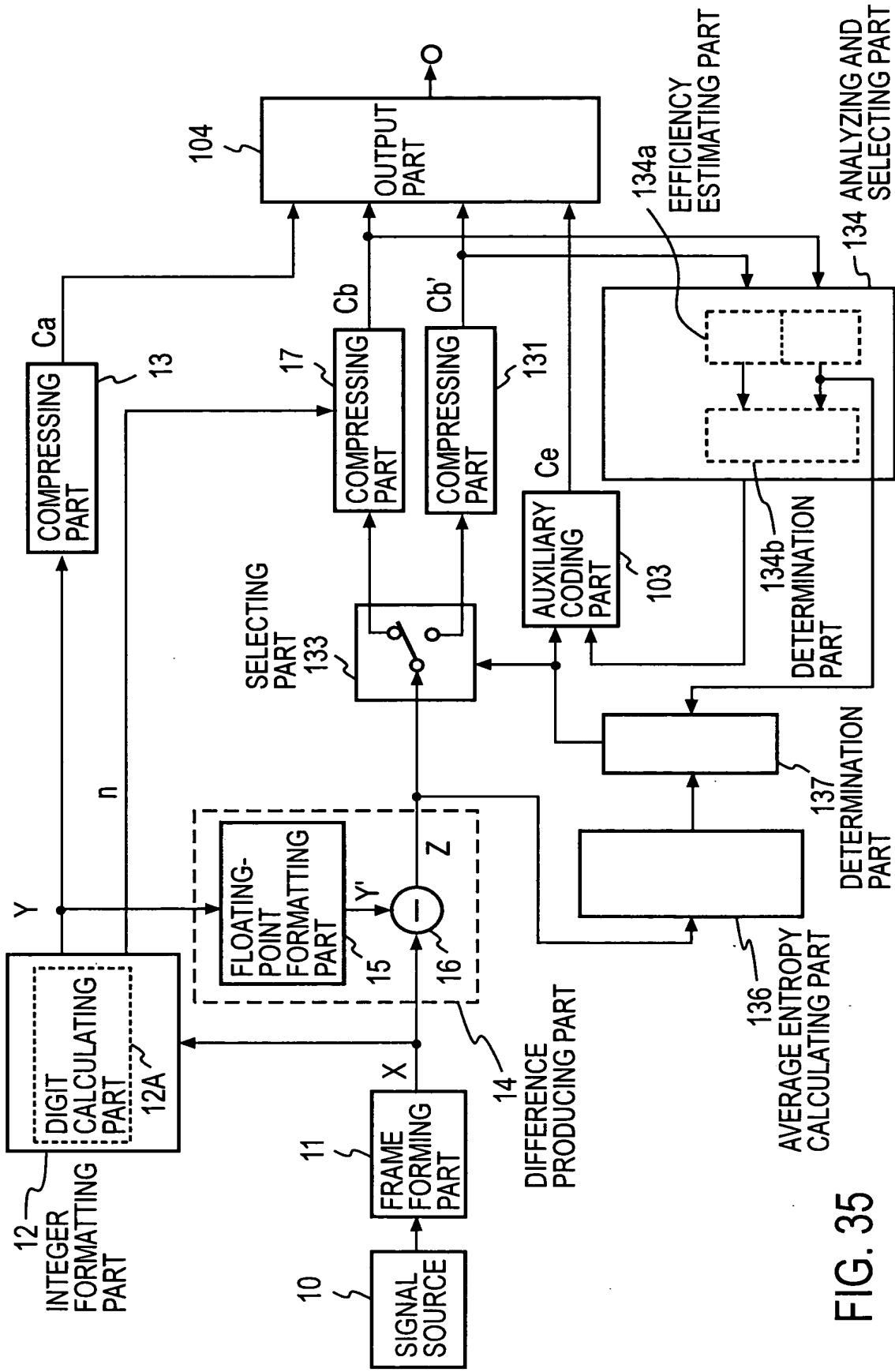


FIG. 35

FIG. 36

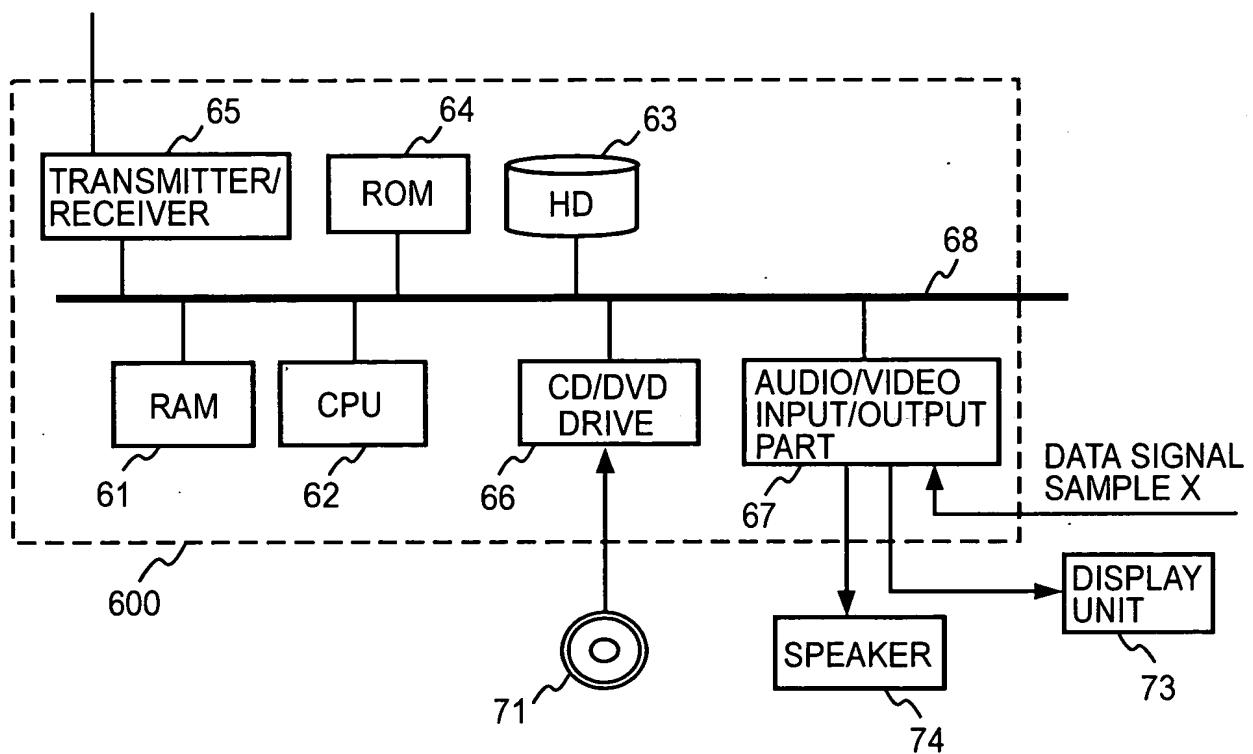


FIG. 37

